



Air Force Integrated Infrastructure

Integrating Stovepipes into
Interoperable Infrastructure
Components

Broadsword 2000 Conference



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Overview

- How we've built systems in the past
 - Stovepipes
 - Tunnel vision
- How the Air Force intends to build them in the future
 - Tightly integrated
 - Interoperable component-ware
- How we plan to implement an integrated infrastructure
- Current components
- Future components



How we've built systems in the past

- DoD has built systems in the past essentially in a vacuum
 - Tunnel Vision
 - No vision of capabilities already existing or capabilities which could benefit more than one system
 - We've built stovepipes



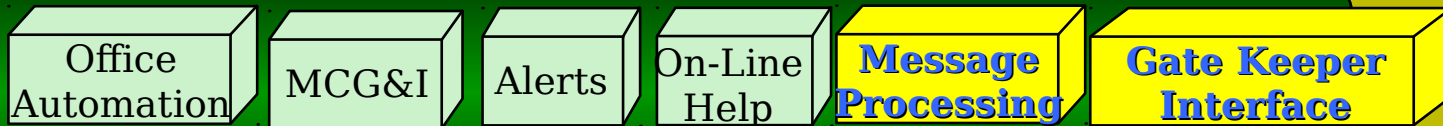
How we plan to build them in the future

- We must focus on the “bigger” picture when designing new capabilities
 - We should not be building systems but rather designing functional component-ware which interoperates within the overall DoD architecture
 - Where possible, re-use of existing capabilities
 - Where viable, Commercial Off The Shelf (COTS)
 - Why reinvent the wheel?

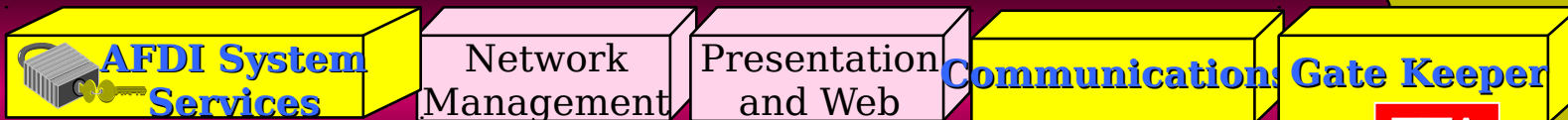


How we plan to build them in the future (continued)

COE



COMMON SUPPORT APPLICATIONS



INFRASTRUCTURE SERVICES



DII COE KERNEL

Operating System



TTA

DATA ACCESS

SHADE





How we plan to implement an integrated infrastructure

- An Integration lab has been established at AFRL to integrate, test & evaluate, the interoperability of 497IOG sponsored programs
 - An initiative is underway to take those Air Force programs meeting integration and interoperability standards and install them as the base infrastructure for the new CAOC-X



Current infrastructure components

- AFDI
 - Provides the underlying infrastructure security and enterprise infrastructure management tools
- Broadsword/Gatekeeper
 - Provides secure transparent access to distributed information sources
- ISSE Guard
 - Provides secure, bi-directional information exchange between dissimilar security domains
 - TTA
 - Provides secure transparent access to distributed information sources across security domains as the ISSE interface to the Gatekeeper
- IET or AMHS for messaging (jury still out...)



Future Components

- 497th IOG has partnered with Penn State University's Applied Research Lab to build an all source fusion and correlation tool capable of sensor to shooter real time/near real time targeting of Time Critical Targets
 - Being developed as a new component of the infrastructure



Future Components (continued)

The goal is to provide Real Time/Near Real Time
Sensor to Shooter Target Correlation



**Enroute Mission Planning
and Retargeting**



**Sensor-to-Decision
Maker-to-Shooter**



**Sensor-to-
Shooter**



Summary

- We can no longer continue to build systems in a vacuum
 - The resources are no longer available
- The pieces of one component must enhance and interoperate with the whole
 - Interoperable, integrated, component-ware to build on the overall infrastructure
- An underlying infrastructure must be assumed when building new components
 - New components must integrate into that infrastructure seamlessly
 - New components must enhance current infrastructure capabilities